AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A composition of matter ~~A tumor cell~~ comprising a recombinant WR strain vaccinia virus, said vaccinia virus comprising ~~a vaccinia virus expression vector comprised of~~ a mutation in a thymidine kinase (TK) gene of the genome of said vaccinia virus to produce a negative TK phenotype and comprising ~~comprised of~~ a mutation in at least one vaccinia virus growth factor (VVGF) gene of the genome of said vaccinia virus to produce a negative VVGF phenotype ~~, wherein said tumor cell is present *in vivo* in a mammal~~.

2. **(Currently amended)** The composition of claim 1, wherein said vaccinia virus ~~The tumor cell of claim 1, wherein said vector~~ further comprises an exogenous nucleotide sequence.

3. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative thymidine kinase phenotype results from a vaccinia virus thymidine kinase gene containing a deletion of nucleic acid sequence.

4. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative thymidine kinase phenotype results from a vaccinia virus genome from which a thymidine kinase gene is deleted.

5. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative thymidine kinase phenotype results from a vaccinia virus thymidine kinase gene containing an insertion of nucleic acid sequence.

6. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative thymidine kinase phenotype results from a vaccinia virus thymidine kinase gene containing a substitution of nucleic acid sequence.

7. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative vaccinia virus growth factor phenotype results from at least one vaccinia virus growth factor gene containing a deletion of nucleic acid sequence.

8. **(Currently amended)** The composition ~~The tumor cell~~ of claim 7, wherein said deletion comprises a deletion of the EGF-receptor binding site of said vaccinia virus growth factor gene.

9. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative vaccinia virus growth factor phenotype results from a vaccinia virus genome from which at least one vaccinia virus growth factor gene is deleted.

10. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative vaccinia virus growth factor phenotype results from at least one vaccinia virus growth factor gene containing an insertion of nucleic acid sequence.

11. **(Currently amended)** The composition ~~The tumor cell~~ of claim 1, wherein said negative vaccinia virus growth factor phenotype results from at least one vaccinia virus growth factor gene containing a substitution of nucleic acid sequence.

12. **(Currently amended)** The composition ~~The tumor cell~~ of claim 2, wherein said exogenous nucleotide sequence is selected from the group consisting of tumor suppressor genes, cytotoxic genes, cytostatic genes, cytokines, suicide genes, and antigen encoding genes.

13. **(Currently amended)** The composition ~~The tumor cell~~ of claim 12, wherein said tumor suppressor gene is selected from the group consisting of WT1, p53, p16, Rb, and BRCA1.

14. **(Canceled)**

15. **(Currently amended)** The composition of claim 1, wherein said vaccinia virus ~~The tumor cell of Claim 1, wherein said vaccinia virus expression vector~~ is produced by a virus particle containing a virus genome, wherein expression of said genome produces a vaccinia virus with a negative thymidine kinase phenotype and a negative vaccinia virus growth factor phenotype.

16. **(Canceled)**

17. **(Currently amended)** The composition of claim 1, wherein said vaccinia virus ~~The tumor cell of Claim 1, wherein said vaccinia virus expression vector~~ is constructed such that the gene for *E. coli lacZ* is inserted into the thymidine kinase (TK) or virus growth factor (VGF) site.

18. **(Currently amended)** The composition of claim 1, wherein said vaccinia virus ~~The tumor cell of Claim 1, wherein said vaccinia virus expression vector~~ is constructed such that the gene for enhanced green fluorescent protein (EGFP) is inserted into the thymidine kinase (TK) or virus growth factor (VGF) site.

19.-24 **(Canceled)**

25. **(Currently amended)** A product made by the method of:

providing a WR strain vaccinia virus genome and constructing a recombinant WR strain vaccinia virus ~~a vaccinia virus expression vector~~ by;

mutating at least one vaccinia virus growth factor gene of said vaccinia virus genome to produce a negative vaccinia virus growth factor phenotype; and

mutating a thymidine kinase gene of said vaccinia virus genome to produce a negative thymidine kinase phenotype, whereby a recombinant WR strain vaccinia virus is constructed ~~; and~~

~~introducing said vaccinia virus expression vector into a tumor cell, wherein said tumor cell is present in vivo in a mammal and does not encompass said mammal~~.

26-44. **(Canceled)**

45. (**New**) The composition of claim 2, wherein said exogenous nucleotide sequence is selected from the group consisting of cystic fibrosis transmembrane regulator (CFTR), Factor VIII, low density lipoprotein receptor, beta-galactosidase, alpha-galactosidase, beta-glucocerebrosidase, insulin, parathyroid hormone, and alpha-1-antitrypsin.

46. (**New**) The composition of claim 2, wherein said exogenous nucleotide sequence is introduced to inactivate said TK gene.

47. (**New**) The composition of claim 2, wherein said exogenous nucleotide sequence is introduced to inactivate said VVGF gene.

48. (**New**) The composition of claim 12, wherein said exogenous nucleotide sequence is a cytokine.

49. (**New**) The composition of claim 12, wherein said exogenous nucleotide sequence is a suicide gene.

50. (**New**) The composition of claim 2, wherein said exogenous nucleotide sequence is an imaging agent.